

REMARKS/ARGUMENTS

Applicants appreciate the inclusion of Claims 10-18 within the set of examined claims.

New Claims 21-24 have been added. Support for these claims is found in original Claim 1 and Examples 1 and 3 at specification pages 12 and 13. See also Figure 1. No new matter has been entered.

The claims have been rejected as obvious over the combination of Kondo in view of EP '221, further in view of McAllister. This rejection is traversed.

As recognized at the bottom of page 2 of the Official Action, both Kondo and EP '221 are silent with regard to a shaped expanded graphite article having an oxidation-resistant coating layer comprising both boron and phosphorous. Kondo relates to a flexible graphite product made by treating graphite particles with an antioxidant comprising at least one metal salt of a boric acid ester selected from a limited group. See column 2, lines 54-66 of the reference. EP '221 provides an expanded graphite sheet containing phosphorous pentoxide and phosphate in specified proportions. See paragraph [0008] at page 2 of the reference. In neither Kondo nor EP '221 is there any disclosure or suggestion that the disclosed result-effective components (i.e., boron in Kondo, phosphorous in EP '221) could or should be combined with any other agent, nor would there have been a reasonable expectation that these different agents would have worked effectively in combination with one another for their individual purposes. In fact, the only reference cited against the claims that discloses a barrier coating containing both phosphorous and boron, McAllister, utilizes these components at ratios outside those presently claimed and in amounts that do not meet, e.g., the presently claimed limitation wherein the content of the boron element in the oxidation resistant coating layer is 1 mass % or more. See, e.g., Table II and column 4, lines 31-32 of McAllister. Note

also the fact that McAllister does not use a shaped expanded graphite article but rather a carbon-carbon composite. See col. 1, lines 10-15 and col. 2, lines 55-63 of the reference.

As shown by the data summarized in applicants' present Figure 1, the invention shaped expanded graphite articles having an oxidation-resistant coating layer according to the claims show excellent flexibility and, importantly, a superior rate of oxidation loss as compared to the reference materials: Comparative Example 1 is representative of Kondo in that it contains only boron in the coating layer; Comparative Example 2 is representative of EP '221 because it contains only phosphorous in the coating layer; and Comparative Example 3 is representative of McAllister because it contains less than the required mass % of boron in the layer:

	ELEMENTAL ANALYSIS		COATING LAYER (μm)	FLEXIBILITY		RATE OF OXIDATION LOSS (mass%) at 800 °C for 3 hours in the air
	BORON (mass%)	PHOSPHORUS (mass%)		LONGITUDINAL DIRECTION (times)	TRANSVERSE DIRECTION (times)	
EXAMPLE 1	15	2	20	13	22	10
EXAMPLE 2	1	0.1	2	15	23	30
EXAMPLE 3	30	3	50	10	18	2
COMPARATIVE EXAMPLE 1	15	0	18	13	20	50
COMPARATIVE EXAMPLE 2	0	2	0.2	15	25	95
COMPARATIVE EXAMPLE 3	0.5	0.05	0.1	15	27	98

Thus, because even the combination of references fails to disclose or suggest the present invention and the superior properties provided, Applicants submit that the present application is in condition for allowance, and early notification to this effect is respectfully requested.

Respectfully submitted,

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